

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	POST	Examiner:	MAYO, TARA L
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Title:	RESCUE UNDERLAY FOR MATTRESSES		

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**SECOND AMENDED APPEAL BRIEF**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

This is an appeal from the Final Rejection mailed March 3, 2006 and the Advisory Action mailed September 21, 2005, in which claims 16-45 were rejected. The Notice of Appeal was filed on June 1, 2006. This second amended appeal brief is in response to the Notice of Non-Compliant Appeal Brief mailed May 29, 2007.

Any underpayment should also be charged (and any overpayment should be credited) to Deposit Account No. 501257.

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**REAL PARTY IN INTEREST**

The real party in interest is Ecolab Inc., by virtue of an assignment recorded at 015285/0317. Ecolab is a Delaware corporation headquartered in St. Paul, Minnesota. Further information regarding Ecolab Inc. is available at <http://www.ecolab.com>.

**RELATED APPEALS AND INTERFERENCES**

There are no other prior and pending appeals, interferences or judicial proceedings known to Appellant, the Appellant's legal representative, or assignee Ecolab Inc. which may be related to, directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**STATUS OF CLAIMS**

Fifteen claims were filed with the application. A preliminary amendment was filed on August 27, 2003 canceling the original fifteen claims and adding thirty new claims (claims 16-45). One claim was later cancelled (see Amendment of October 8, 2004 cancelling claim 19). Claims 16-18 and 20-45 were pending when this appeal was filed.

No claims are allowed. Claims 16-18, 20-24, 26-28, 30, 33, 34, and 42-45 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Hemphill (U.S. Pat. No. 5,150,487) in view of Böttger et al. (U.S. Pat. No. 5,582,893). Claim 25 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Hemphill (U.S. Pat. No. 5,150,487) in view of Böttger et al. (U.S. Pat. No. 5,582,893) and further in view of Failor (U.S. Pat. No. 5,860,174). Finally, claims 31 and 35-41 are rejected under 35 U.S.C. §103(a) as being unpatentable over Hemphill (U.S. Pat. No. 5,150,487) in view of Böttger et al. (U.S. Pat. No. 5,582,893). All of these rejections are being appealed. A clean copy of the appealed claims 16-18 and 20-45 is reproduced in the Claims Appendix.

**STATUS OF AMENDMENTS**

The Final Rejection was mailed March 3, 2006. In it, claims 16-18, 20-24, 26-28, 30, 33, 34, and 42-45 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Hemphill (U.S. Pat. No. 5,150,487) in view of Böttger et al. (U.S. Pat. No. 5,582,893). Claim 25 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Hemphill (U.S. Pat. No. 5,150,487) in view of Böttger et al. (U.S. Pat. No. 5,582,893) and further in view of Failor (U.S. Pat. No. 5,860,174). Finally, claims 31 and 35-41 were rejected under 35 U.S.C. §103(a) as being unpatentable over Hemphill (U.S. Pat. No. 5,150,487) in view of Böttger et al. (U.S. Pat. No. 5,582,893). No amendments were made after the Final Rejection of March 3, 2006. All of the amendments made by Appellant have been incorporated into the claims and are included in the claims as listed in the Claims Appendix.

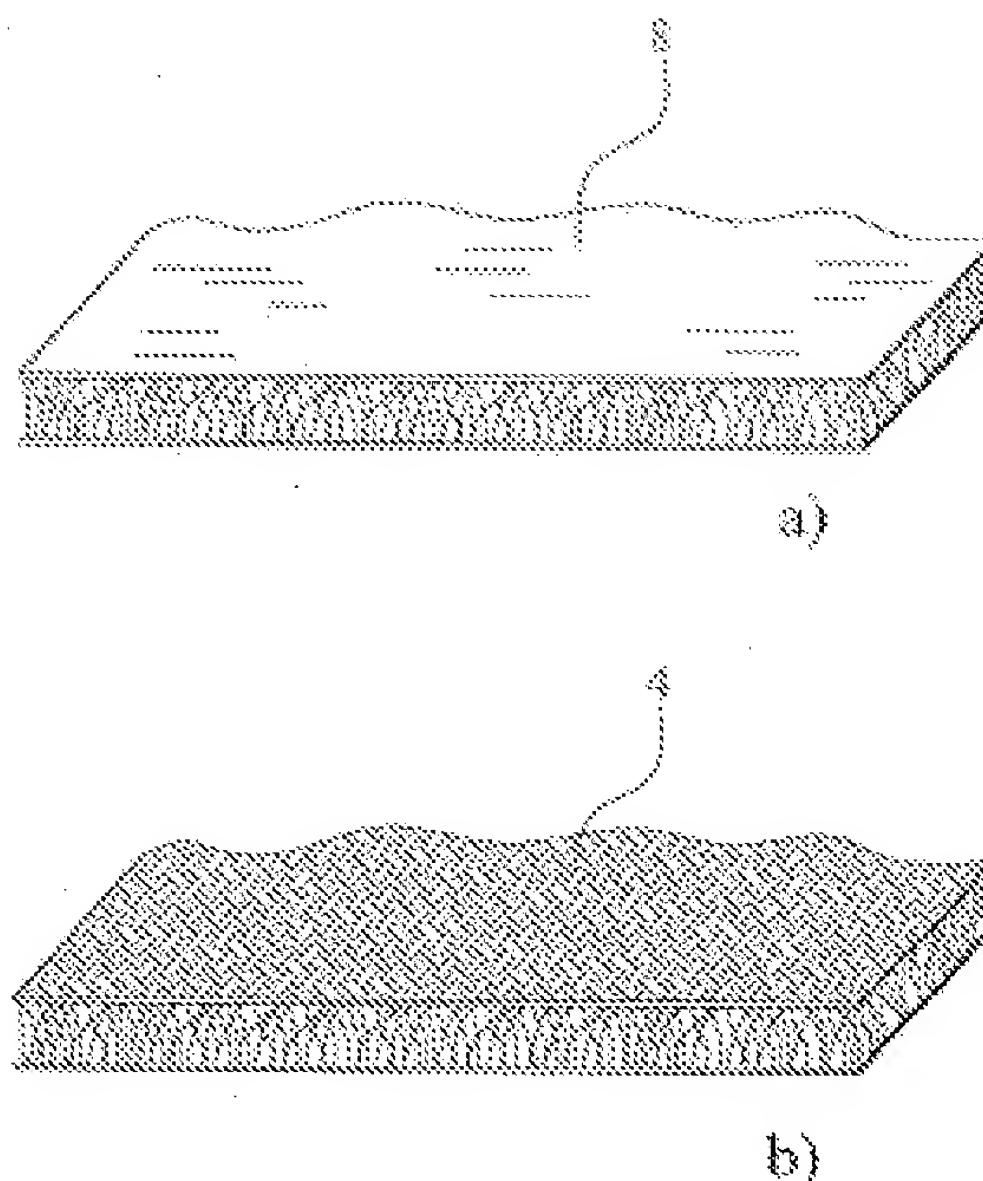
**SUMMARY OF CLAIMED SUBJECT MATTER**

Rescue mat underlays or rescue mats are used in hospitals and other patient care locations under mattresses for use in the event of a catastrophe where patients would need to be rescued from a building. See page 1 of the Application, lines 12-18. When used to rescue a patient, a rescue mat allows a single person to move a patient lying on a mattress across the floor and even down stairs. This is advantageous compared to a stretcher which typically requires two people and offers clear advantages during an emergency where bed-ridden patients can be rescued as fast as possible with a minimum number of rescue workers so that other rescue workers can be assisting other patients. Id. The fact that rescue mats are used in emergency situations where time is critical and mistakes can mean serious and even life-threatening consequences should be kept in mind when evaluating the Final Rejection's assertion that Appellant's invention is obvious, particularly with respect to the combination of Hemphill and Böttger et al.

As discussed in the response of December 14, 2005, Appellant's invention is directed to an improvement in rescue mat underlays and a specific rescue mat embodiment where the rescue mat underlay comprises spacer woven fabric. See page 2 of the Application, lines 13-22. The use of spacer woven fabric in the underlay has advantages that a regular sheet of plastic or other forms of "spring travel" not have. For example, the spacer woven fabric provides a hard spring which provides spring travel. While the spring constant of the underlay will be greater than that of the mattress, the combination of the underlay and the mattress provides improved cushioning which is important when carrying a patient along the ground or especially down stairs. Id. Many hospital or nursing home patients are frail, especially if they are bed-ridden. Some patients may have medical conditions that make them especially sensitive to a rescue such as fragile bones, joint problems, recovery from a medical procedure, or a tendency for severe



bruising. Improvements in cushioning, especially when rescuing sensitive patients, are desirable. The rescue mat of the present invention addresses this problem. Additionally, other forms of “spring travel” such as foam or air bubble materials do not meet other objectives of the present invention such as flame-resistance and the need to have requisite tensile strength in the longitudinal direction of the underlay mat. See page 2 of the Application, lines 24-29. Spacer woven fabric is given a specific definition in the specification and this definition has been incorporated into the claims. Spacer woven fabric is defined as “a material which has two fabric cover layers which are held at a spacing of a few millimeters by distance-maintaining bridge threads.” See the paragraph on page 2 of the Application bridging page 3. It is the distance-maintaining bridge-threads that provide the spring characteristics of the underlay. Id. Figures 4 a) and b) show two embodiments of spacer woven fabric and are reproduced below:



Accordingly, independent claim 16 is directed to one embodiment of a rescue underlay having a substantially flat material comprising spacer woven fabric having at least two layers spaced apart by bridge threads and providing spring travel, a pull member, and a patient securing belt, where the substantially flat material is substantially the size of the mattress. See page 1 line 1 to page 2 line 22 and Figure 1 (describing and depicting a rescue underlay generally including the generally flat nature of the rescue underlay); page 4 lines 14-22 and Figure 1 and reference characters 1 (mattress) and 4 (underlay) (describing and depicting that the rescue underlay is substantially the size of the mattress); page 2 line 31 to page 3 line 6, page 6 lines 1-16, and Figures 4a and 4b (describing the spacer woven fabric, bridge threads, and spring travel); page 4, lines 28-36 and Figures 1, 2, 5, and 6 with reference character 5 (describing and depicting the pull loops); and page 5 lines 5-7 and Figures 1-3 and 5-6 with reference character 6 (describing and depicting the patient securing belt).

Independent claim 43 is directed to another embodiment of a rescue underlay similar to that described in claim 16, however, the pull member is specifically called out as a pull loop. Claim 43 describes a rescue underlay comprising a substantially flat material comprising spacer woven fabric having at least two layers spaced apart by bridge threads and providing spring travel, a pull loop, and a patient securing belt where the substantially flat material is substantially the size of a mattress. See page 1 line 1 to page 2 line 22 and Figure 1 (describing and depicting a rescue underlay generally including the generally flat nature of the rescue underlay); page 4 lines 14-22 and Figure 1 and reference characters 1 (mattress) and 4 (underlay) (describing and depicting that the rescue underlay is substantially the size of the mattress); page 2 line 31 to page 3 line 6, page 6 lines 1-16, and Figures 4a and 4b (describing the spacer woven fabric, bridge threads, and spring travel); page 4, lines 28-36 and Figures 1, 2, 5, and 6 with

reference character 5 (describing and depicting the pull loops); and page 5 lines 5-7 and Figures 1-3 and 5-6 with reference character 6 (describing and depicting the patient securing belt).

Independent claim 44 is directed to another embodiment of a rescue underlay similar to that described in claim 43 but adds that the flat material is a flat plastic material. Claim 44 describes a rescue underlay comprising a substantially flat plastic material comprising spacer woven fabric having at least two layers spaced apart by bridge threads and providing spring travel, a pull loop, and a patient securing belt where the substantially flat material is substantially the size of a mattress. See page 1 line 1 to page 2 line 22 and Figure 1 (describing and depicting a rescue underlay generally including the generally flat nature of the rescue underlay); page 4 lines 14-22 and Figure 1 and reference characters 1 (mattress) and 4 (underlay) (describing and depicting that the rescue underlay is substantially the size of the mattress); page 2 line 31 to page 3 line 6, page 6 lines 1-16, and Figures 4a and 4b (describing the spacer woven fabric, bridge threads, and spring travel); page 4, lines 28-36 and Figures 1, 2, 5, and 6 with reference character 5 (describing and depicting the pull loops); page 5 lines 5-7 and Figures 1-3 and 5-6 with reference character 6 (describing and depicting the patient securing belt); and page 4 line 16 describing the flat material as a flat plastic material.

Finally, independent claim 45 is directed to a method of moving a patient using a rescue underlay where a patient is reclining on a rescue underlay for a mattress and moved from a first location to a second location where the underlay comprises a substantially flat material comprising spacer woven fabric having at least two layers spaced apart by bridge threads and providing spring travel, a pull member, and a patient securing belt where the substantially flat material is substantially the size of a mattress. See page 1 line 1 to page 2 line 22 and Figure 1 (describing and depicting a rescue underlay generally including the generally flat nature of the

rescue underlay); page 4 lines 14-22 and Figure 1 and reference characters 1 (mattress) and 4 (underlay) (describing and depicting that the rescue underlay is substantially the size of the mattress); page 2 line 31 to page 3 line 6, page 6 lines 1-16, and Figures 4a and 4b (describing the spacer woven fabric, bridge threads, and spring travel); page 4, lines 28-36 and Figures 1, 2, 5, and 6 with reference character 5 (describing and depicting the pull loops); page 5 lines 5-7 and Figures 1-3 and 5-6 with reference character 6 (describing and depicting the patient securing belt); and Figures 1 and 6 (depicting a patient reclining on a rescue underlay); and page 1 lines 13-18 (describing moving the reclining patient). Additionally, claim 45 states that the patient can be moved by one person. See page 1 line 16 (describing a single person rescuing a patient).

**GROUND OF REJECTION TO BE REVIEWED ON APPEAL**

The grounds of rejection to be reviewed on appeal include the following:

**I. Whether claims 16-18, 20-24, 26-28, 30, 33, 34, and 42-45 are unpatentable under 35 U.S.C. § 103(a) over Hemphill (U.S. Pat. No. 5,150,487) in view of Böttger et al. (U.S. Pat. No. 5,582,893) (hereinafter “Hemphill” and “Böttger et al.”).**

The March 3, 2006 Final Rejection (hereinafter “Final Rejection”) asserts that Hemphill discloses all of the features of the Appellant’s invention except for the features of the spacer woven fabric. See Final Rejection paragraph 3 on pages 2-4. The Final rejection uses Böttger et al. to teach the elements of the spacer woven fabric and states that “it would have been obvious to one having ordinary skill in the art of beds at the time of invention to modify the device shown by Hemphill ‘487 such that the flat material would comprise woven material as taught by Böttger et al. ‘893. The motivation would have been to enhance the dimensional stability of the material.” See Final Rejection, paragraph 3, page 5.

**II. Whether claim 25 is unpatentable under 35 U.S.C. § 103(a) over Hemphill (U.S. Pat. No. 5,150,487) in view of Böttger et al. (U.S. Pat. No. 5,582,893) and further in view of Failor (U.S. Pat. No. 5,860,174) (hereinafter “Failor”).**

The March 3, 2006 Final Rejection asserts that Hemphill and Böttger et al. disclose all of the features of the claimed invention in claim 25 except for “the plastic film being selected from the group consisting of polyurethane, polyester, and combinations thereof.” See Final Rejection, paragraph 4 on page 5 bridging page 6. The Final Rejection states that Failor ‘174 discloses a patient transfer mattress where the bottom surface comprises a fluoropolymer film combined with a polyester fabric substrate and that it would have been obvious to a person skilled in the art of making beds at the time of the invention to modify the device shown by the combination of

Hemphill and Böttger et al. to include the plastic film taught by Faylor. See Final Rejection, paragraph 4, page 6.

**III. Finally, whether claims 31 and 35-41 are unpatentable under 35 U.S.C. §103(a) over Hemphill (U.S. Pat. No. 5,150,487) in view of Böttger et al. (U.S. Pat. No. 5,582,893).**

The March 3, 2006 Final Rejection asserts that Hemphill and Böttger et al. disclose all of the features of the claimed invention except for the specific features called out in claims 31, and 35-41.<sup>1</sup>

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<sup>1</sup> In addition to the 35 U.S.C. §103(a) rejections, the Final Rejection objected to the Specification for the first time because of the reference to claim numbers. Appellant will make the appropriate corrections with the next response.

**ARGUMENT****I. REJECTION OF CLAIMS 16-18, 20-24, 26-28, 30, 33 34, AND 42-45 UNDER 35 U.S.C. §103(A):****ARGUMENTS CONCERNING CLAIMS 16, 18, 22-24, 26-27, 33, 34, AND 42-45<sup>2</sup>**

**The Final Rejection does not properly demonstrate a *prima facie* case of obviousness because the combination of Hemphill and Böttger et al. does not include any of the three basic criteria needed to make a *prima facie* case, namely a showing of all of the elements of the claims, a motivation to combine the references, and a reasonable likelihood of success.**

Under well-established patent law, the Examiner bears the burden of making a *prima facie* case of obviousness. Obviousness is determined from the perspective of a person skilled in the art at the time the invention was made. In order to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all of the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. See MPEP § 2142.

When applying 35 U.S.C. § 103(a), the following tenets of patent law must be adhered to:

(A) The claimed invention must be considered as a whole;

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<sup>2</sup> Appellant notes that claims 29 and 32 are noted as rejected on the Office Action Summary page but are not listed as rejected in the detailed Office Action, nor are claims 29 and 32 objected to as dependent on a rejected independent claim. Appellant assumes claims 29 and 32 are rejected and therefore incorporates the arguments herein as applied to claims 29 and 32. Appellant does not waive any additional arguments with respect to claims 29 and 32 because Appellant cannot argue the rejection until a rejection has been made. Appellant requests clarification if the Examiner intended to allow claims 29 and 32. Also, Appellant requests clarification as to the rejection of claims 29 and 32 if the Examiner intended to reject the claims. Appellant notes that in every Office Action, each pending claim should be mentioned by number, and its treatment or status given. See MPEP §707.07(i).



(B) The references must be considered as a whole and must suggest the desirability and thus the obviousness of making the combination;

(C) The references must be viewed without the benefit of impermissible hindsight vision afforded by the claimed invention; and

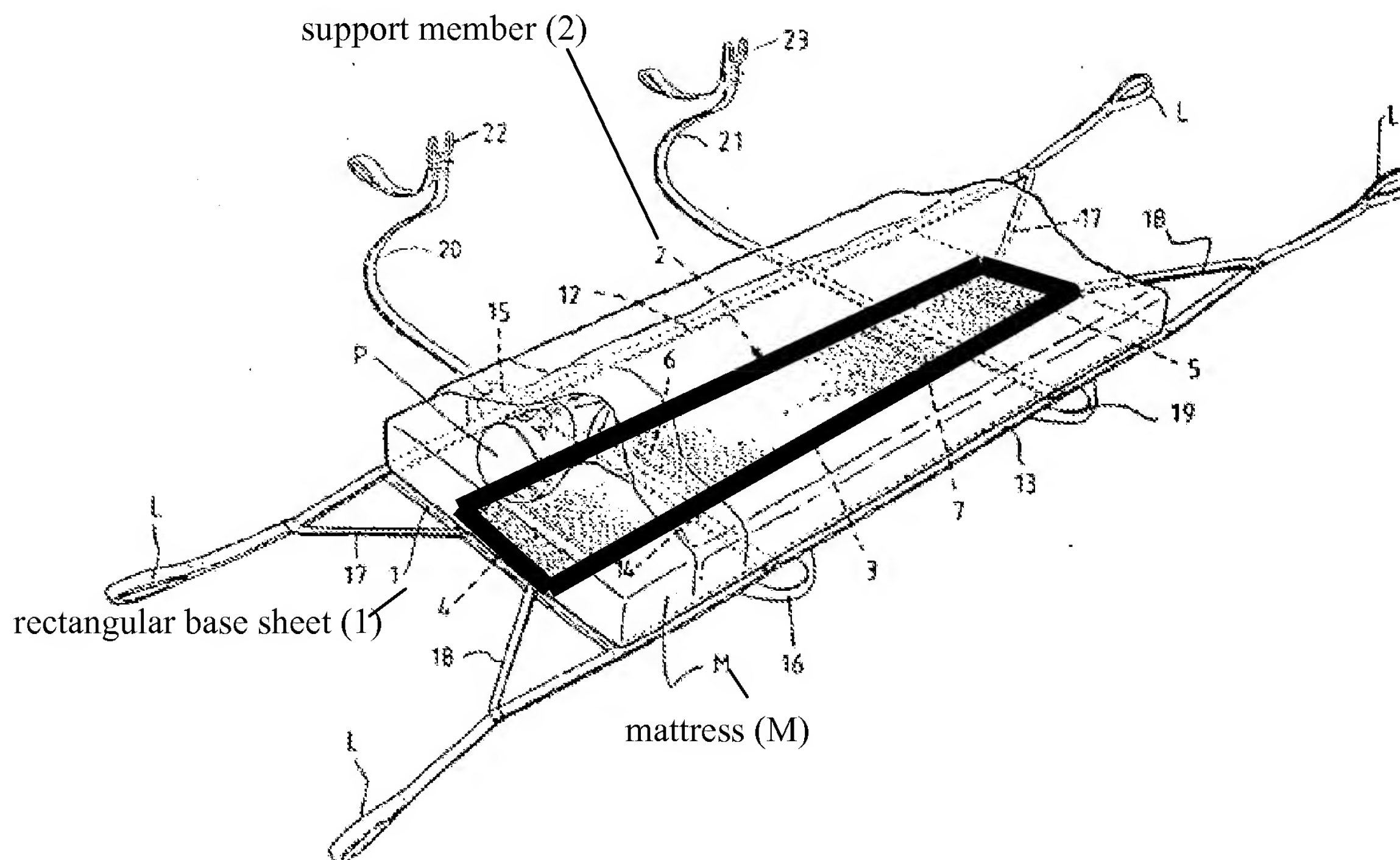
(D) Reasonable expectation of success is the standard with which obviousness is determined.

See MPEP § 2141.

*i. Hemphill and Böttger et al. do not teach all of the elements of the claims of the present invention and specifically an underlay (1) that provides spring travel and (2) is substantially the same size as the mattress.*

Claim 16 of the present invention includes “a substantially flat material comprising spacer woven fabric having at least two layers spaced apart by bridge threads and providing spring travel, *wherein the material is substantially the size of the mattress.*” According to the Final Rejection, Hemphill, as seen in Figures 1-3 discloses a rescue underlay for a mattress that is substantially the size of the mattress. See Final Rejection, paragraph 3, page 2. Appellant does not see where Hemphill teaches a rescue underlay that is substantially the size of the mattress, either in the specification or the drawings. On the contrary, Figures 1-3 show an underlay that is substantially *smaller* than the mattress. Figure 1 shows a mattress (M), a rectangular base sheet (1) that is substantially the size of the mattress, and a support member (2) that is substantially smaller than the mattress (bold outline added).





The rectangular base sheet (1) is characterized as “a generally rectangular base sheet (1) of flexible fabric, such as polyester.” See Hemphill, column 2, lines 50-51. The support member is characterized as “a relatively rigid support member (2) secured centrally to the base sheet.” See Hemphill, column 2, lines 54-55. The Examiner appears to be combining the base sheet (1) and the support member (2) to teach a substantially flat material comprising spacer woven fabric having at least two layers spaced apart by bridge threads and providing spring travel wherein the material is substantially the size of the mattress as called out in claim 16. However, putting aside the fact that Hemphill does not teach spacer woven fabric, Appellant does not agree that the combination of the base sheet and the support member teach this element. The Examiner

appears to be taking the position that it is the corrugations (3) in the support member that provide spring travel. Appellant believes that this conclusion was created by the Examiner using hindsight after reading Appellant's specification because this element is not stated in Hemphill either directly or indirectly. Appellant therefore disagrees that the corrugations teach spring travel. However, even if the corrugations are taken to provide spring travel, they only extend down the central portion of the base sheet according to Hemphill. Therefore, Hemphill does not teach a rescue underlay that provides spring travel and is *substantially the size of the mattress*. A rescue underlay that provides spring travel and is substantially the size of the mattress is important for several reasons. First, a significant percent of the population in the United States is overweight or obese<sup>3</sup>. A rescue mat that only provides spring travel down the center of the mattress will not provide sufficient spring travel for a patient that is overweight or obese. Second, a rescue mat that only provides spring travel down the center of the mattress assumes that the patient is centrally located on the mattress which may not be the case. Finally, a rescue mat that only provides spring travel down the center of the mattress does not increase the cushioning against the sides, for example, if the mattress bumps against a wall when a patient is moved out of a building. The base sheet does not meet this element because it does not provide spring travel or comprise spacer woven fabric. Böttger et al. is directed to a spacing fabric for reinforcement and does not remedy these shortcomings of Hemphill.

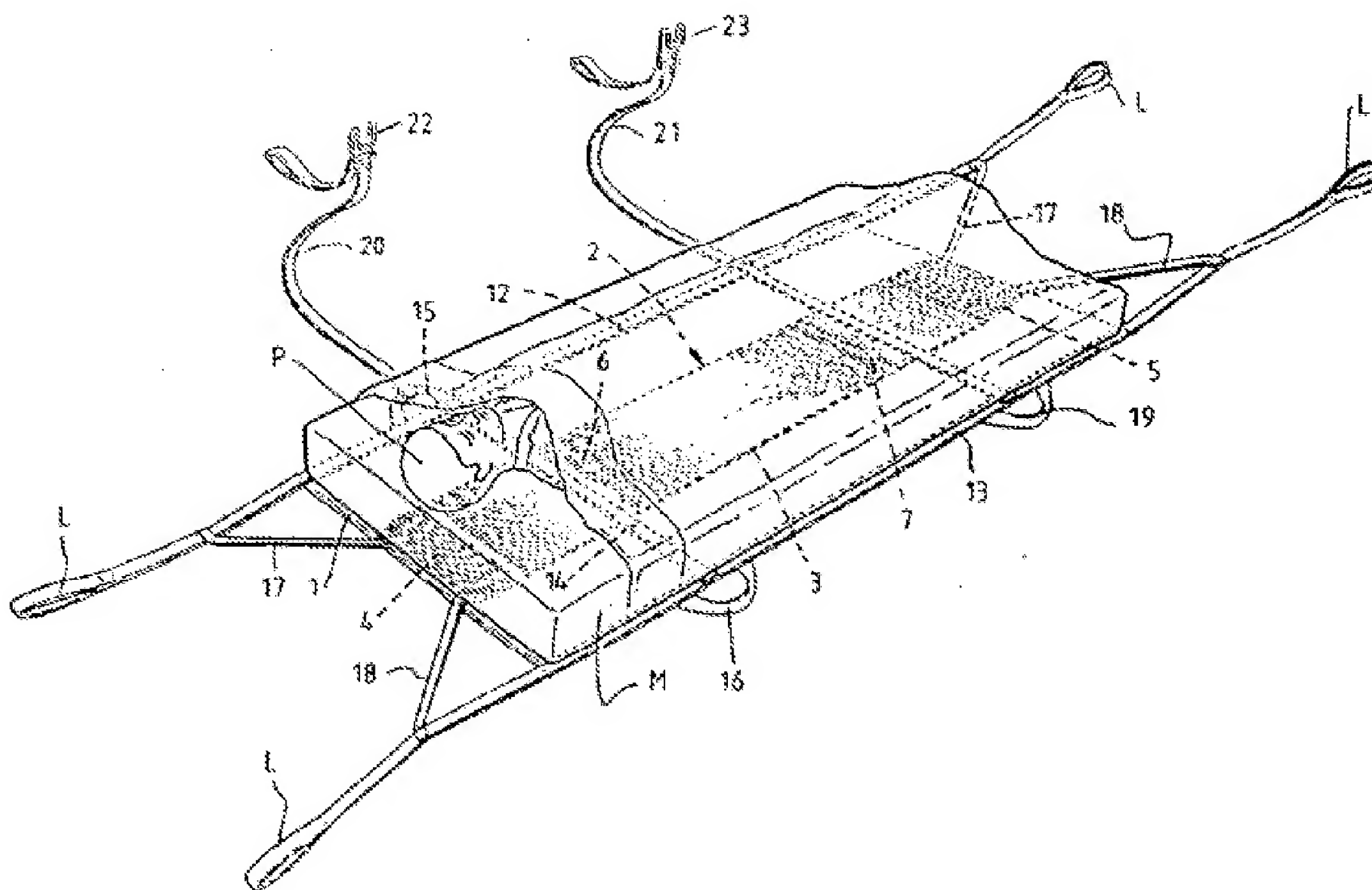
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<sup>3</sup> One website estimates that 61% of adults in the United States were overweight or obese in 1999. See Overweight and Obesity at a Glance, United States Department of Health and Human Services, [http://www.surgeongeneral.gov/topics/obesity/calltoaction/fact\\_glance.htm](http://www.surgeongeneral.gov/topics/obesity/calltoaction/fact_glance.htm).

ii. *Hemphill and Böttger et al. do not include a motivation to combine the references but rather teach away from Appellant's invention.*

As described above, Appellant's invention is directed to rescue mat having spacer woven fabric where the spacer woven fabric provides spring travel. In the Final Rejection, the Examiner is using Böttger et al. to teach spacer woven fabric and states that Böttger et al. in combination with Hemphill renders Appellant's invention obvious. Appellant respectfully disagrees.

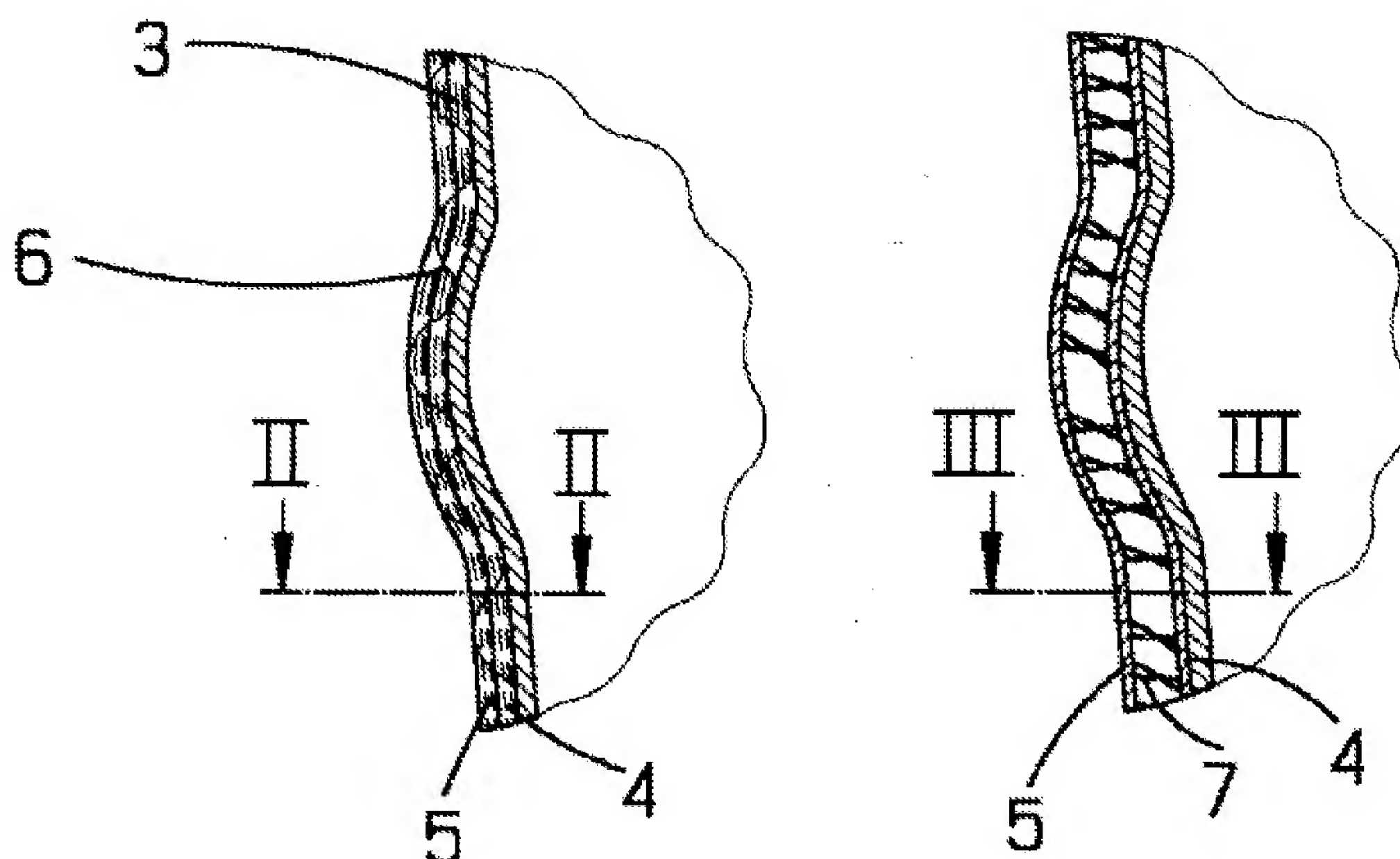
Hemphill is directed to an Evacuation Restraint and an embodiment of the evacuation restraint is reproduced in Figure 1 of the Hemphill patent.



The evacuation restraint in Hemphill is designed to resist soiling, minimize delays in the event of an emergency, provide easier handling, lower the cost of manufacturing, and simplify the

packaging envelope. Hemphill, column 1, lines 30-52. Accordingly, Hemphill discusses the nature of the base sheet (1), the support member (2), and the envelope. Hemphill, column 2, lines 50-55 and Figures 5, 6, and 7 and the corresponding text. Hemphill does not describe or characterize either the base sheet (1) or support member (2) in terms of its tensile strength or spring travel nor does it state that a base sheet (1) or support member (2) that has a relatively high tensile strength or improved spring travel would work with the invention disclosed in Hemphill or would be desirable. On the contrary, Hemphill actually teaches away from a base sheet (1) or support member (2) that provides spring travel because it states that “the support member (2) provides a relatively rigid flat surface covered by a base sheet (1).” Hemphill, column 4, lines 24-27. A rigid flat surface is contrary to the purpose of the present invention which is a rescue underlay that provides spring travel. See MPEP §2145. In addition to teaching away from the present invention, this same passage from Hemphill teaches away from a combination of Hemphill and Böttger et al. Hemphill calls out a rigid flat surface and Böttger et al. calls out a spacing fabric. It is improper to combine references where the references teach away from the combination. See MPEP §2145.

Böttger et al. does not remedy the shortcomings of Hemphill. Böttger et al. is directed to a spacing fabric for use in reinforcing structural components such as metallic plates, or containers such as tanks. Böttger et al., column 2, lines 20-35. The fabric in Böttger et al. is designed to be flat for a period of time and then expand upon heating to form two layers spaced apart. Id. This is demonstrated in Figure 1.



Böttger et al. does not teach or suggest that the spacing fabric can be used with rescue mats such as those described in Hemphill, or in the present invention. Further, the spacing fabric described in Böttger et al., i.e., a spacing fabric that starts out as two layers that touch and expand upon heating to two layers spaced apart, teaches away from the present invention because it would not be desirable or appropriate in the present invention where the purpose is to rescue people in an emergency and the layers have to come spaced apart versus expanding upon heating.

*iii. To combine only a portion of the invention from Böttger et al. improperly overlooks the reference as a whole.*

A fair reading of a combination of Hemphill and Böttger et al. would be the evacuation restraint of Hemphill having a mattress and an underlay where the underlay has the spacing fabric of Böttger et al., where the spacing fabric starts out as one layer and then expands upon heating to provide two layers spaced apart. Under this reading, in an emergency situation, a

rescue worker would come into a patient's room with a patient lying on the bed, make an adjustment to the underlay (with the patient on the bed) by heating the rescue underlay underneath the mattress, and after the single layer spacing fabric has expanded to form two layers spaced apart, proceed to move the patient along the floor and out the building. In a true emergency situation, this reading borders on the ridiculous where rescue workers do not have the luxury of time, where the building may be dark or may be compromised in some manner (e.g., flooding, on fire, or chemically or biologically contaminated) and where it is not feasible to make adjustments to an underlay under a mattress with a patient lying on the bed. A more likely reading, and the reading that the Examiner appears to be taking, is to take only a portion of the teachings from Böttger et al., and specifically, the portion of the spacing fabric where the spacing fabric is already two layers spaced apart, and combine only that portion with the teachings from Hemphill. To combine only this portion of the Böttger et al. reference impermissibly overlooks the reference as a whole.

According to the MPEP, a prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention. See MPEP § 2142. Here, Hemphill teaches away from the combination of Hemphill and Böttger et al. because it suggests to use a relatively rigid support member. Böttger et al. teach away from the combination of Hemphill and Böttger et al. because it starts out as one layer and expands to form two layers spaced apart.

In some cases, a proper review of the prior art focuses on whether the prior art suggest the *desirability* of the combination. In the present application, not only do Hemphill and Böttger et al. teach away from the combination of the references, but they specifically state that a combination is not desirable for the reasons discussed above.



*iv. The motivation to combine Hemphill and Böttger et al. would not come from a person skilled in the art of making beds because Böttger et al. is non-analogous art.*

The motivation to combine Hemphill with Böttger et al. would not come from a person having ordinary skill in the art of making beds. Böttger et al. is not analogous prior art. A person of ordinary skill in the art of making beds would not look to the construction arts or to methods of reinforcement in construction in order to find materials that would be useful for rescue mats or provide spring travel. Böttger et al. appears to have been selected as prior art based on a full text word search informed by a reading of Appellant's specification and specifically that Appellant's claims include the words "spacer woven fabric" and Böttger et al. is entitled "spacer fabric". In order to rely on a reference as a basis for a rejection, the reference must be in applicant's field of endeavor or reasonably pertinent. MPEP §2141.01(a). This is not the case with Böttger et al. This is further exemplified by the fact that neither Hemphill nor Böttger et al. include a reference or teaching to the other (i.e., Böttger et al. does not reference the art of making beds and Hemphill does not reference the construction arts), making it even less likely that the motivation would have come from a person skilled in the art of making beds. Appellant recognizes that in the mechanical arts, it is reasonable to permit inquiry into other areas where one of ordinary skill in the art would be aware that similar problems exist. However, this is not the case here as a person skilled in the art of making beds would not look to construction reinforcement to solve the problem of spring travel in rescue mats.

*v. The Final Rejection's assertion that the motivation to combine Hemphill and Böttger et al. would have been to enhance dimensional stability impermissibly uses hindsight to create a motivation to combine Hemphill and Böttger et al. where a motivation otherwise does not exist.*

It is well established that an obviousness determination looks to what a person skilled in the art knew at the time of the invention and strongly discourages the use of hindsight. The mere fact that prior art references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. See MPEP § 2143.11(III). According to page 5 of the Final Rejection, the motivation to combine Hemphill and Böttger et al. with respect to claims 16, 20 and 43-45 would have been to enhance the dimensional stability of the material. However, dimensional stability is not what the Appellant was setting out to improve. Rather, the Appellant was trying to improve the spring travel of a rescue mat. Page 2 of the Application states “[i]t is already known to provide a rescue underlay of the conventional kind with additional, cushioning support wedges, particularly at the head end, at the foot end and in the middle region, which are arranged under the mattress and are to prevent slipping of the patient on the mattress (WO 00/74785 A1). It has proved that the known rescue underlays for mattresses still present a need for improvement in handling.” In this case, Appellant believes that the Examiner looked at Appellant's invention, found two references, and created a motivation to combine the references in order to make the obviousness rejection, thereby impermissibly using hindsight to make the rejection.

*vi. The combination of Hemphill and Böttger et al. does not suggest Appellant's invention with a reasonable expectation of success.*

There is not a reasonable likelihood of success that the reinforcement fabric of Böttger et al. could be combined with the invention in Hemphill to create a rescue underlay for mattresses

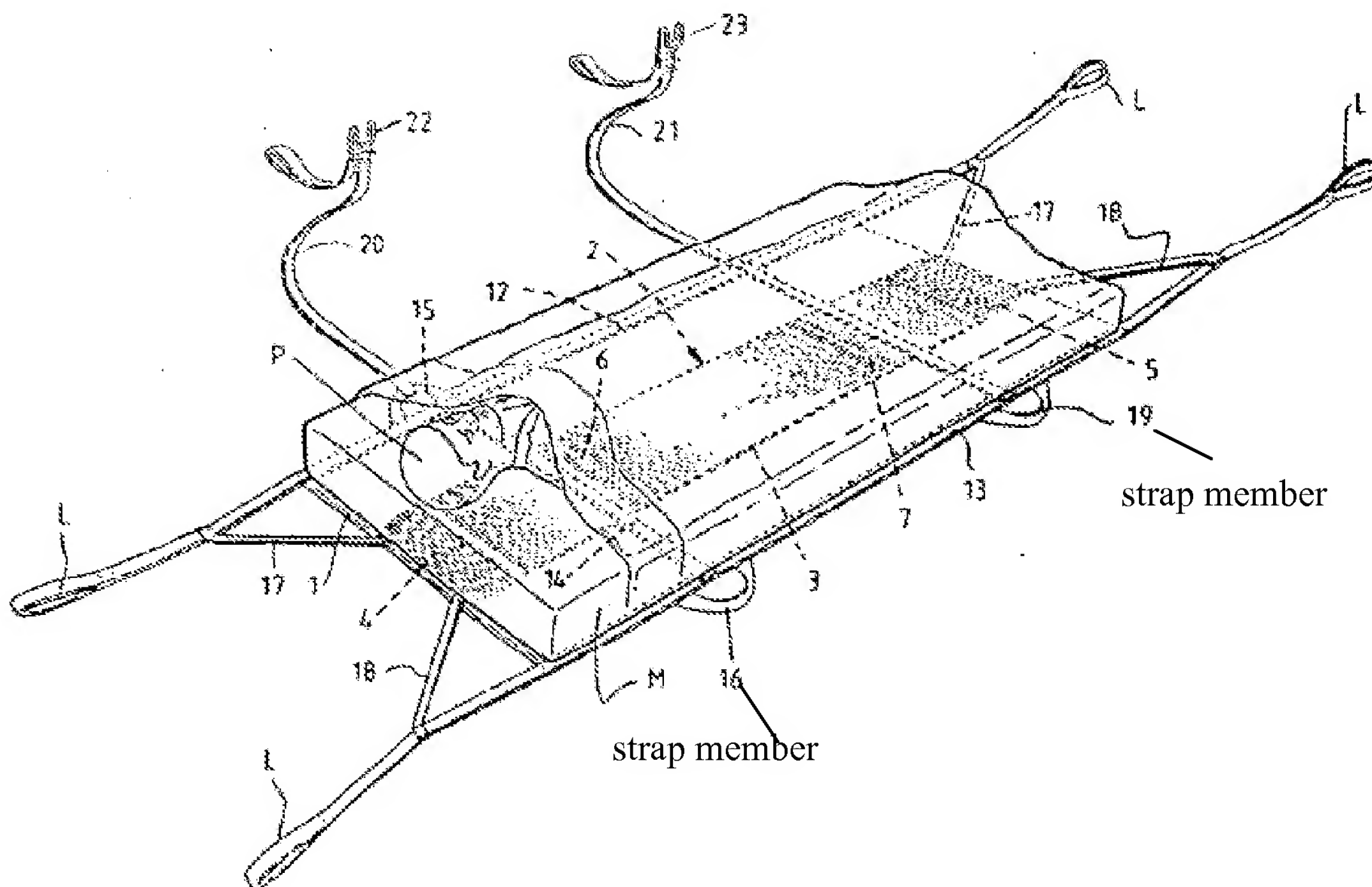


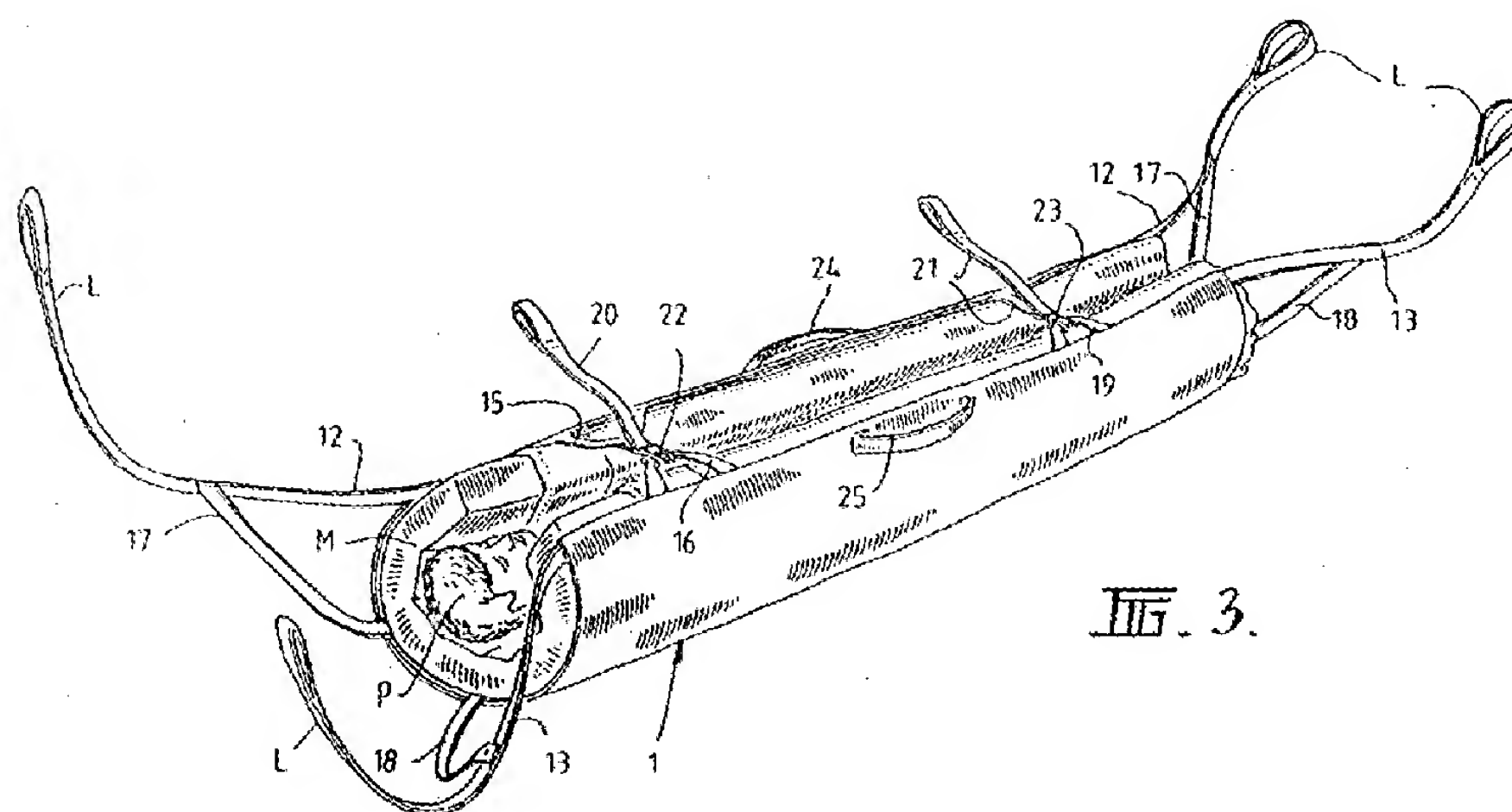
having spacer woven fabric. As discussed above, the spacer fabric in Böttger et al. starts out as two layers that touch and expand upon heating to form two layers spaced apart. Even if a person skilled in the art of making beds would look to Böttger et al. and the construction arts, a person skilled in the art could not reasonably expect the combination of Böttger et al. and Hemphill to succeed if the spacer fabric of Böttger et al. has to be heated to expand. As previously discussed, a fair reading of a combination of Hemphill and Böttger et al. would be the evacuation restraint of Hemphill with the spacing fabric of Böttger et al., where the spacing fabric starts out as one layer and then expands upon heating to provide two layers spaced apart. Under this reading, in an emergency situation, a rescue worker would come into a patient's room with a patient lying on the bed, make an adjustment to the underlay (with the patient on the bed) by heating the rescue underlay underneath the mattress, and after the single layer spacing fabric has expanded to form two layers spaced apart, proceed to move the patient along the floor and out the building. In a true emergency situation, this would not provide a successful rescue mat where rescue workers do not have the luxury of time, where the building may be dark or may be compromised in some manner (e.g., flooding, on fire, or chemically or biologically contaminated) and where it is not feasible to make adjustments to an underlay under a mattress with a patient lying on the bed.

Appellant requests that Hemphill and Böttger et al. be read fairly, and not relied upon to make a proper obviousness rejection under 35 U.S.C. § 103(a). Appellant accordingly requests reversal of the rejection of claims 16, 18, 22-24, 26-27, 33 and 34-42 as being unpatentable over Hemphill in view of Böttger et al.

**ARGUMENTS CONCERNING CLAIM 17**

Regarding claim 17, Appellant incorporates by reference the above arguments and adds the following. Claim 17 depends from claim 16 and adds the element of a mattress retaining band. According to the Final Rejection, Hemphill teaches a mattress retaining band in Figure 1 shown as numbers 16 and 19. See Final Rejection paragraph 3, page 3. Appellant disagrees that Hemphill teaches a mattress retaining band. Hemphill teaches numbers 16 and 19 as strap members that work with numbers 20 and 21 to envelop a patient to be evacuated. See Hemphill column 1, lines 63-67.





In contrast, Appellant's mattress retaining band, shown as number 7 in Figure 1 of the invention, straps around the mattress to hold the mattress on the underlay.

Hemphill does not teach all of the elements of claim 17. The shortcomings of Hemphill are not remedied by Böttger et al. Accordingly, Appellant requests that Hemphill and Böttger et al. be read fairly, and not relied upon to make a proper obviousness rejection under 35 U.S.C. § 103(a). Appellant accordingly requests reversal of the rejection of claim 17 as being unpatentable over Hemphill in view of Böttger et al.

### **ARGUMENTS CONCERNING CLAIM 20**

Regarding claim 20, Appellant incorporates by reference the above arguments and adds the following. Claim 20 depends from claim 16 and adds the element that the spacer woven fabric is spacer knitted fabric. According to the Final Rejection, the Examiner has not given this limitation patentable weight because the manner of forming the woven material is not germane to patentability. See Final Rejection, paragraph 3, page 5. Appellant disagrees because there are structural characteristics of knitting the spacer fabric that make spacer knitted fabrics useful in

the present invention. As Appellant's specification points out "spacer knitted fabrics have textile outer surfaces of greater width of stitch link, the outer surfaces being connected by spacer threads and held at the desired distance." See Application at page 3, lines 1-3. An important part of Appellant's invention is the spacer woven fabric, therefore, Appellant believes that characteristics of the spacer woven fabric *are* important to patentability, contrary to the Final Rejection.

Accordingly, Appellant requests that Hemphill and Böttger et al. be read fairly, and not relied upon to make a proper obviousness rejection under 35 U.S.C. § 103(a). Appellant also requests that the limitation in claim 20 be given patentable weight. Appellant accordingly requests reversal of the rejection of claim 20 as being unpatentable over Hemphill in view of Böttger et al.

### **ARGUMENTS CONCERNING CLAIM 21**

Regarding claim 21, Appellant incorporates by reference the above arguments and adds the following. Claim 21 depends from claim 16 and adds the element that the spacer woven fabric is about 4 mm to about 20 mm thick. According to the Final Rejection, it would have been obvious to one of ordinary skill in the art to make the material between 4 mm and 20 mm thick since it has been held that discovering the optimum or workable ranges involves only routine skill in the art. See Final Rejection, paragraph 3, page 5. Appellant disagrees because the thickness of the spacer woven fabric is structurally important to the ability of the fabric to provide spring travel.

Accordingly, Appellant requests that Hemphill and Böttger et al. be read fairly, and not relied upon to make a proper obviousness rejection under 35 U.S.C. § 103(a). Appellants also

requests reconsideration of the limitation in claim 21. Appellant accordingly requests reversal of the rejection of claim 21 as being unpatentable over Hemphill in view of Böttger et al.

### **ARGUMENTS CONCERNING CLAIM 28**

Regarding claim 28, Appellant incorporates by reference the above arguments and adds the following. Claim 28 depends from claim 23 and adds the element that the coating on the underside of the underlay is washable. According to the Final Rejection, Hemphill teaches a coating on the underside of the underlay that is washable. See Final Rejection paragraph 3, page 3. However, Appellant does not see where this element is taught in Hemphill. Hemphill teaches a rectangular base sheet (1) made of polyester that has been treated to be fire resistant, water resistant, and relatively friction free. Appellant does not see washable in the list of attributes of the underlay coating.

Hemphill does not teach all of the elements of claim 28. The shortcomings of Hemphill are not remedied by Böttger et al. Accordingly, Appellant requests that Hemphill and Böttger et al. be read fairly, and not relied upon to make a proper obviousness rejection under 35 U.S.C. § 103(a). Appellant requests reversal of the rejection of claim 28 as being unpatentable over Hemphill in view of Böttger et al.

### **ARGUMENTS CONCERNING CLAIM 30**

Regarding claim 30, Appellant incorporates by reference the above arguments and adds the following. Claim 30 depends from claim 23 and adds the element that the coating on the underside of the underlay is readily disinfected. According to the Final Rejection, Hemphill teaches a coating on the underside of the underlay that is readily disinfected. See Final Rejection paragraph 3, page 3. However, Appellant does not see where this element is taught in Hemphill. Hemphill teaches a rectangular base sheet (1) made of polyester that has been treated to be fire

resistant, water resistant, and relatively friction free. Appellant does not see “readily disinfected” in the list of attributes of the underlay coating.

Hemphill does not teach all of the elements of claim 30. The shortcomings of Hemphill are not remedied by Böttger et al. Accordingly, Appellant requests that Hemphill and Böttger et al. be read fairly, and not relied upon to make a proper obviousness rejection under 35 U.S.C. § 103(a). Appellant requests reversal of the rejection of claim 30 as being unpatentable over Hemphill in view of Böttger et al.

## **II. REJECTION OF CLAIM 25 UNDER 35 U.S.C. §103(A):**

Regarding claim 25, Appellant incorporates by reference the above arguments and adds the following. Claim 25 depends from claim 24 and adds that the plastic film is polyurethane, polyester, or a combination. According to the Final Rejection, Hemphill in view of Böttger et al. discloses all of the limitations of claim 25 except for the plastic film being selected from the group consisting of polyurethane, polyester, and combinations thereof. See Final Rejection paragraph 4, page 6. The Final Rejection uses Failor to disclose a plastic film for use on a patient transfer mattress. Appellant disagrees that Failor, in combination with Hemphill and Böttger et al. render claim 25 obvious. Hemphill and Böttger et al. do not teach all of the elements of claim 25 for the reasons discussed above. Further, Failor does not remedy the shortcomings that Hemphill and Böttger et al. have in failing to render Appellant’s invention obvious. Failor is directed to a patient transfer mattress and states “a mattress assembly 10 is provided for facilitating the transfer of a patient from a first support, such as a stretcher, to a second support, such as an x-ray table. The assembly is designed so that such transfer can be accomplished in a manner which is safe for both the patient and the attending staff. It is also designed for use with most stretchers or carts, regardless of the manufacturer.” See Failor,



column 2, lines 38-45. Patient transfer is different from patient evacuation. Again, Appellant does not see in the references where a person skilled in the art of making beds would look to Failor. Appellant believes that the Examiner looked at Appellant's invention, found the references, and created a motivation to combine the references in order to make the obviousness rejection, thereby impermissibly using hindsight to make the rejection.

Appellant requests that Failor, Hemphill and Böttger et al. be read fairly, and not relied upon to make a proper obviousness rejection under 35 U.S.C. § 103(a) with respect to claim 25. Appellant accordingly requests reversal of the rejection of claim 25 as being unpatentable over Hemphill in view of Böttger et al and further in view of Failor.

### **III. REJECTION OF CLAIMS 31 AND 35-41 UNDER 35 U.S.C. § 103(A):**

#### **ARGUMENTS CONCERNING CLAIM 31**

Regarding claim 31, Appellant incorporates by reference all of the above arguments and adds the following.

Claim 31 depends from claim 16 and further defines the braking surface. According to the Final Rejection, Hemphill and Böttger et al. disclose all of the features of claim 31 except for the underlay further comprising a braking surface wherein the braking surface exhibits a higher sliding friction than the material. See Final Rejection, paragraph 5, page 7. The Final Rejection states that "it would have been obvious to one having ordinary skill in the art at the time of invention to modify the device shown by Hemphill '487 and Böttger et al. '893 such that it would include a braking surface. The motivation would have been to restrict the mobility of the mattress on the underlay." See Final Rejection, paragraph 5, page 7. The Final Rejection does not provide an additional prior art reference to render the additional element in claim 31 obvious.

Appellant assumes that the Final Rejection is relying on the general knowledge of a person skilled in the art to make this rejection.

According to MPEP § 2144.03, in limited circumstances, it is appropriate for an examiner to take official notice of facts not in the record or to rely on “common knowledge” in making a rejection, however, such rejections should be judiciously applied. Official notice without documentary evidence to support an examiner’s conclusion is permissible only in some circumstances. While “official notice” may be relied on, these circumstances should be rare when an application is under final rejection or action under 37 CFR 1.113. Official notice unsupported by documentary evidence should only be taken by the examiner where the facts asserted to be well-known or to be common knowledge in the art are capable of instant and unquestionable demonstration as being well-known. Ordinarily, there must be some form of evidence in the record to support an assertion of common knowledge. See Zurko, 258 F.3d at 1386, 59 USPQ2d at 1697 (holding that general conclusions concerning what is “basic knowledge” or “common sense” to one of ordinary skill in the art without specific factual findings and some concrete evidence in the record to support these findings will not support an obviousness rejection).

In the present invention, reliance on official notice or common knowledge in the art to support an obviousness rejection for the braking surface element in claim 31 is not appropriate. In this case, the Examiner acknowledges that the prior art of record does not teach the specific braking element of claim 31. Appellant does not believe that the use of a braking element on a rescue underlay having spacer woven fabric is so well-known in the art as to render this an appropriate circumstance for official notice or an obviousness rejection in light of common knowledge in the art.



Accordingly, Appellant requests reversal of the rejection of claim 31 as being unpatentable over Hemphill in view of Böttger et al. in light of unsupported common knowledge in the art. Alternatively, Appellant requests that the Examiner provide documentary evidence to support the obviousness of the braking element in claim 31.

**ARGUMENTS CONCERNING CLAIMS 35-38**

Regarding claims 35-38, Appellant incorporates by reference all of the above arguments and adds the following.

Claims 35-38 depend from claim 16 and claim 35 and describe the tunnel-like receptions of the underlay. According to the Final Rejection, Hemphill and Böttger et al. disclose all of the features of claims 35-38 except for the tunnel-like receptions. See Final Rejection, paragraph 5, page 7. The Final Rejection states that “it would have been obvious to one having ordinary skill in the art of beds at the time the invention was made to modify the device shown by Hemphill ‘487 and Böttger et al. ‘893 such that it would include tunnel-like receptions for the patient securing belts to protect the same against wear during use, and to permit movement and/or replacement of the belts.” See Final Rejection, paragraph 5, page 7. The Final Rejection does not state what the motivation would have been to do so, nor does the Final Rejection provide an additional prior art reference to render the additional element in claim 31 obvious. Appellant assumes that the Final Rejection is relying on the general knowledge of a person skilled in the art to make this rejection.

According to MPEP § 2144.03, in limited circumstances, it is appropriate for an examiner to take official notice of facts not in the record or to rely on “common knowledge” in making a rejection, as discussed above with respect to claim 31.

In the present invention, reliance on official notice or common knowledge in the art to support an obviousness rejection for the tunnel-like receptions in claims 35-38 is not appropriate. In this case, the Examiner acknowledges that the prior art of record does not teach the specific tunnel-like receptions of claims 35-38. Appellant does not believe that the use of tunnel-like receptions on a rescue underlay having spacer woven fabric is so well-known in the art as to render this an appropriate circumstance for official notice or an obviousness rejection in light of common knowledge in the art. Further, it is unclear to the Appellant what the motivation in the prior art is to add the tunnel-like receptions.

Accordingly, Appellant requests reversal of the rejection of claims 35-38 as being unpatentable over Hemphill in view of Böttger et al. in light of unsupported common knowledge in the art. Alternatively, Appellant requests that the Examiner provide documentary evidence to support the obviousness of the tunnel-like receptions in claims 35-38.

#### **ARGUMENTS CONCERNING CLAIMS 39-41**

Regarding claims 39-41, Appellant incorporates by reference all of the above arguments.

According to the Final Rejection, Hemphill and Böttger et al. disclose all of the elements of claim 39 except for the three patient securing belts. Also, according to the Final Rejection, Hemphill and Böttger et al. disclose all of the elements of claim 40 except for the underlay being permanently affixed to a mattress. Finally, according to the Final Rejection, Hemphill and Böttger et al. disclose all of the elements of claim 41 except for the underlay being incorporated into a mattress. See Final Rejection, paragraph 5, page 7. The Final Rejection states that with respect to claim 39, it has been held that mere duplication of essential working parts of a device involves only routine skill in the art. The Final Rejection also states that with respect to claims

40 and 41, it has been held that forming one piece of an article which has formerly been formed in two pieces and put together involves only routine skill in the art.

Appellant disagrees that Hemphill and Böttger et al. render claims 39-41 obvious for the reasons already discussed above. Whether claims 39-41 involve mere duplication or forming one piece from something that was formerly two is immaterial in light of the fact that the prior art of record does not teach the elements of independent claim 16 that claims 39-41 depend from, namely a rescue underlay that has spacer woven fabric.

Accordingly, Appellant requests reversal of the rejection of claims 39-41 under 35 U.S.C. § 103(a) as being unpatentable over Hemphill in view of Böttger et al.

### **CONCLUSION**

Appellants invention is directed to a rescue underlay having spacer woven fabric that provides spring travel.

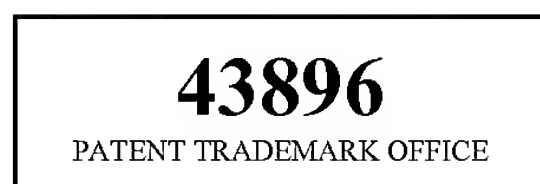
Hemphill does not teach the use of a rescue underlay having spacer woven fabric and in fact teaches away from such in that it describes a rescue underlay that provides a relatively rigid flat surface.

Böttger et al. does not teach the use of a rescue underlay having spacer woven fabric and in fact teaches away from such in that it describes a spacing fabric that starts out as one layer and expands upon heating to form two layers spaced apart.

No proper basis has been given for a person having ordinary skill in the art of making beds to combine Hemphill and Böttger et al. or to take the further step of adding Failor or the common knowledge in the art. Accordingly, the references should never have been combined in the manner set out in the Final Rejection.

Appellant accordingly requests that the 35 U.S.C. §103(a) rejection be reversed.

Please consider this a PETITION FOR EXTENSION OF TIME for a sufficient number of months to enter these papers or any future reply, if appropriate. Please charge any additional fees or credit overpayment to Deposit Account No. 501257.



Respectfully submitted,

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Dated: June 26, 2007

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**CLAIMS APPENDIX**

16. A rescue underlay for a mattress comprising:
  - a. a substantially flat material comprising spacer woven fabric having at least two layers spaced apart by bridge threads and providing spring travel, wherein the material is substantially the size of a mattress;
  - b. at least one pull member; and
  - c. at least one patient securing belt.
17. The underlay of claim 16, further comprising at least one mattress retaining band.
18. The underlay of claim 16, wherein the material comprises plastic.
20. The underlay of claim 16, wherein the spacer woven fabric is a spacer knitted fabric.
21. The underlay of claim 16, wherein the spacer woven fabric has a thickness from about 4 mm to about 20 mm.
22. The underlay of claim 16, wherein the material is selected from the group consisting of flame resistant material, fire-resistant material, non-decaying material, non-hygroscopic material, polyester material, polyamide material, aramide material, glass fiber material, saran material, or combination thereof.
23. The underlay of claim 16, wherein the material further comprises a coating on the underside.
24. The underlay of claim 23, wherein the coating is a plastic film.
25. The underlay of claim 24, wherein the plastic film is selected from the group consisting of polyurethane, polyester, and combination thereof.
26. The underlay of claim 24, wherein the plastic film exhibits a lower sliding friction than the material.

27. The underlay of claim 23, wherein the coating is water-impermeable.
28. The underlay of claim 23, wherein the coating is washable.
29. The underlay of claim 23, wherein the coating is air-permeable.
30. The underlay of claim 23, wherein the coating is readily disinfected.
31. The underlay of claim 16, wherein the material further comprises a braking surface, wherein the braking surface exhibits a higher sliding friction than the material.
32. The underlay of claim 23, wherein the coating further comprises a braking surface, wherein the braking surface exhibits a higher sliding friction than the coating.
33. The underlay of claim 23, wherein the material comprises a plurality of layers of substantially flat material fixedly attached to each other.
34. The underlay of claim 16, wherein the patient securing belt is attached to the underlay mat by an attachment selected from the group consisting of sewing and hook and loop connections.
35. The underlay of claim 16, wherein the underlay further comprises tunnel-like receptions for accommodating the patient securing belt when the patient securing belt is not in use.
36. The underlay of claim 35, wherein the tunnel-like receptions are positioned substantially transversely to the underlay.
37. The underlay of claim 35, wherein the tunnel-like receptions are sewed onto the underlay.
38. The underlay of claim 35, wherein the tunnel-like receptions are located on the underside of the underlay.
39. The underlay of claim 16, wherein the underlay has three patient securing belts.
40. The underlay of claim 16, wherein the underlay is permanently affixed to a mattress.
41. The underlay of claim 16, wherein the underlay is integrated into a mattress.

42. The underlay of claim 16, wherein the pull member is a loop.
43. A rescue underlay for a mattress comprising:
- a. a substantially flat material comprising spacer woven fabric having at least two layers spaced apart by bridge threads and providing spring travel, wherein the material is substantially the size of a mattress;
  - b. at least one pull loop; and
  - c. at least one patient securing belt.
44. A rescue underlay for a mattress comprising:
- a. a substantially flat plastic material comprising spacer woven fabric having at least two layers spaced apart by bridge threads and providing spring travel, wherein the material is substantially the size of a mattress;
  - b. at least one pull loop; and
  - c. at least one patient securing belt.
45. A method of moving a patient comprising:
- a. providing a patient reclining on a rescue underlay for a mattress; and
  - b. moving the patient from a first location to a second location, wherein the underlay comprises
    - i. a substantially flat material comprising spacer woven fabric having at least two layers spaced apart by bridge threads and providing spring travel, wherein the material is substantially the size of a mattress;
    - ii. at least one pull member; and
    - iii. at least one patient securing belt;



wherein the patient can be moved by one person pulling the patient on the rescue underlay.

**EVIDENCE APPENDIX**

1. 35 USC §103(a)
2. Final Rejection of USSN 10/649,152
3. MPEP §2141
4. MPEP §2141.01(a)
5. MPEP §2142
6. MPEP §2143.01(III)
7. MPEP §2144.03
8. MPEP §2145
9. MPEP §707.07(i)
10. U.S. 5,150,487 (Hemphill)
11. U.S. 5,582,893 (Böttger et al.)
12. U.S. 5,860,174 (Failor)
13. U.S. Patent Application SN 10/649,152, for a “Rescue Underlay for Mattress”.
14. [www.surgeongeneral.gov/topics/obesity/calltoaction/fact\\_glance.htm](http://www.surgeongeneral.gov/topics/obesity/calltoaction/fact_glance.htm)
15. Zurko, 258 F3d at 1386, 59 USPQ2d at 1697

**RELATED PROCEEDINGS APPENDIX**

None.